

## GENERAL

The model AR/e electronic water treatment controller has been specifically designed for water treatment operations such as water softening, filtration and other water conditioning processes. The solid state circuitry and latest microprocessor technology provide accurate, reliable and fast response to the intended application. In addition, it can be used for manual, semi-automatic or fully automated systems.

The controller is used with Badger's complete line of disc and turbo meters and can be wall, pipe or panel mounted in a convenient location at or away from the main treatment system.

## OPERATION

The basic function of the AR/e controller is to provide a regeneration signal after a preset amount of water has passed through the flow meter.

When the AR/e controller is operating in the automatic mode and is working in conjunction with the AR/t or RTR transmission system, the AR/e receives pulses from the flow meter equivalent to a fixed amount of water, and deducts them from the preset batch amount. When the counter reaches zero, it immediately reverts to the preset value and the output relay is energized for a pre-programmed period of time, providing an output signal for operation of process equipment or other signal devices.

In the manual mode the counter will remain at "zero" and the relay will remain energized until a signal "STOP" command is received from the front panel or from a remote switch.

## APPLICATIONS

The AR/e can be used as a stand alone controller in manual systems using the batch signal to alert the operator, or in automatic systems, to initiate a new treatment cycle by providing a signal for timers, cycle controllers, chemical feed pumps, etc.

Typical applications include:

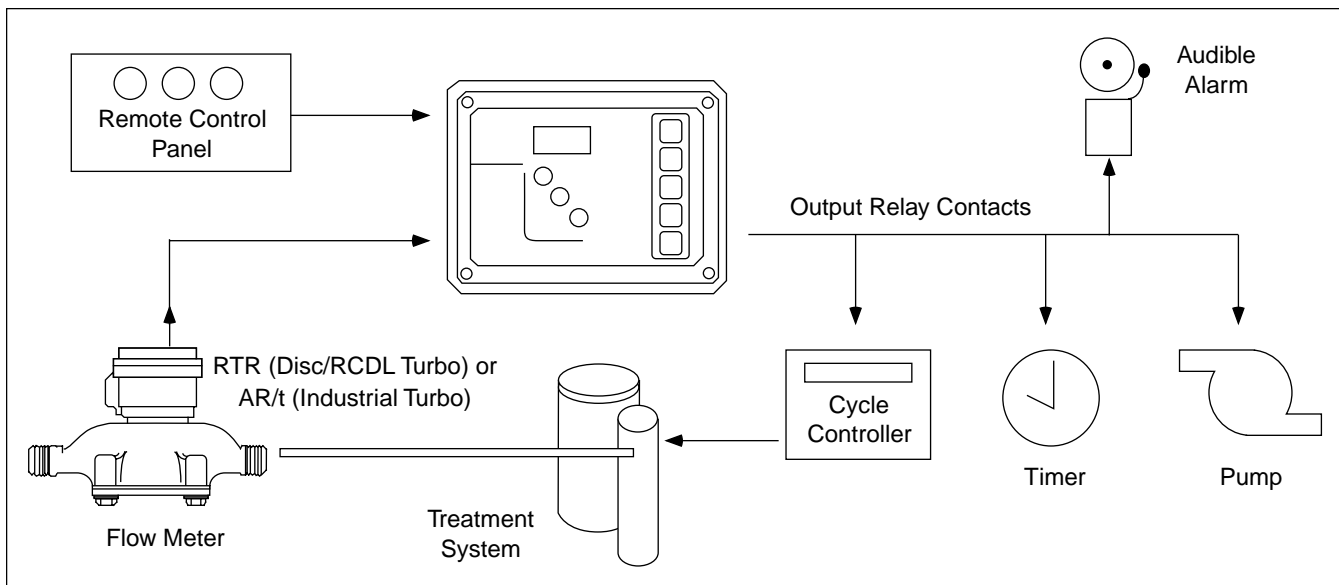
- Commercial and Industrial Water Softening
- Filtration
- De-mineralization
- Reverse Osmosis
- Chemical Feed Systems



## FEATURES

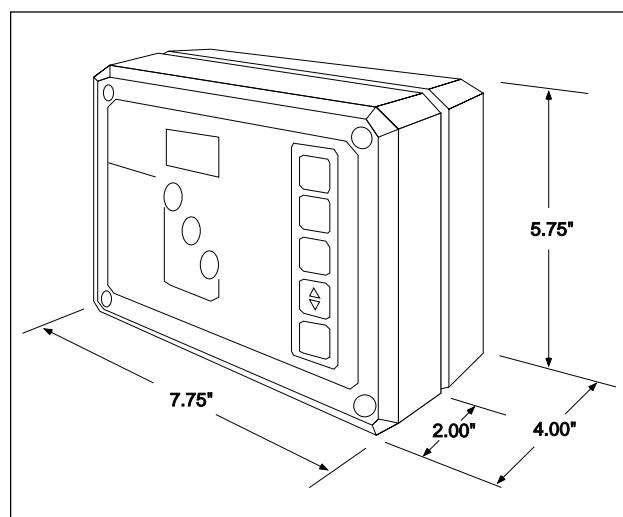
- One controller adapts to any system from 1/2" to 6" flow meters for up to 2000 GPM.
- Enclosure is rated NEMA 4X (water tight and corrosion proof) for harsh industrial environment.
- Start and Stop commands can be controlled remotely.
- Accepts a lockout signal (115 VAC or dry switch contact) to prevent simultaneous operation in multi-tank systems.
- Output relay contacts can activate audible alarms or initiate operation of electro-mechanical timers or electronic multi-cycle treatment controllers.
- A two step programming sequence provides additional safety against tampering or accidental operation.
- Battery backup system to allow for partial system operation during power failures without loss of programmed values.
- Solid state components insure minimum wear and ease of maintenance.
- Remote inputs are optically isolated for high immunity to electrical interference.





## SPECIFICATIONS

<b>Power Input:</b>	115 VAC $\pm$ 10% 50/60 Hz.
<b>Backup power:</b>	9 V NiCad Battery (Internal Charging Circuit)
<b>Signal Inputs:</b>	
• Transmitter Pulse Input:	Dry Switch Closure or Electronic Transmitter (Current Sinking)
• Lockout Signal Input:	Dry Switch Closure/Open Collector and 115 VAC (Optically-isolated)
• Remote START & STOP Input:	Dry Switch Closure/Open Collector (Optically-isolated)
<b>Output Signal:</b>	Form 'C' Contact, Rating 115 VAC @ 0.5 amp, Resistive
<b>Operating Modes:</b>	(Internal Switch Selectable)
• Manual:	Reset & Start on command only
• Automatic:	Timed output signal and auto reset at end of batch
<b>Programmable Functions:</b>	
• Output signal duration:	1 to 999 seconds (Auto Mode)
• Batch size:	Maximum of 99,900,000 gallons, depending on meter size
• 115 VAC lockout:	Logic determined by internal DIP switch setting



<b>Environmental:</b>	
• Operating Temperature:	32° to 130° F (0° to 55° C)
• Operating Humidity:	Up to 100% non-condensing
<b>Display:</b>	Three seven segment red LED numeric readouts (0.6" H x 0.4" W)

Decimal points used for Lockout signal "on" & "output energized" indication.



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 for specific regions and contacts.



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